

NHDES Beach Program

Tiered Monitoring Plan



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Purpose

The New Hampshire Department of Environmental Services (DES) Beach Program has been monitoring water quality at public beaches for over twenty years. The Beach Program monitors coastal and freshwater beaches during its swim season from June through Labor Day. DES recognizes the threat of contracting water-borne diseases at public beaches and makes protecting public health its' main priority. Protection of public health requires the identification of designated beach areas, evaluation of risks associated with a beach area, and the development of a sampling design specific for each beach.

The Beach Program's definition of a designated beach area is as follows: 'A public beach is an area on a river, lake, pond, or tidal water that is intended or used for bathing, swimming, or other primary water contact; operated for or by any municipality, governmental subdivision, public or private corporation, partnership, association, or educational institution, open to the public, members, guests, or students whether on a fee or free basis.

Sampling Design

Coastal designated beach areas will be considered primary contact recreation areas as defined by the New Hampshire 2002 305(b)/303(d) Consolidated Assessment and Listing Methodology (CALM). Coastal areas identified as secondary contact recreation areas as defined by the CALM (Appendix A), are not subject to routine monitoring by the Beach Program and will not be evaluated, or assigned a Tier ranking. Refer to Appendix A for a list of coastal recreational waters and primary/secondary contact recreation areas.

Coastal waters throughout the state are surveyed to identify beach areas which comply with the above definition. Risk-based beach evaluations (Appendix B) are performed for each designated beach area identified along the coast. Beaches will be evaluated using specific criteria for available information, pollution threats, sanitary survey information, exposure conditions, and monitoring data. Each beach will then be ranked and placed into a Tier I or Tier II category. Tier I beaches will be high priority beaches, while Tier II beaches will be of lower priority. Refer to Table 3 for a list of designated beaches and their corresponding Tiers.

The minimum sampling requirements for Tier I and II beaches are described in Table 1. Staffing to meet sampling requirements is consistent with the Generic Beach Program Quality Assurance Project Plan (QAPP) section A 4.0 Project Organization. Staff training abides by section A 8.0 Special Training/Certification of the QAPP.

Signs will be displayed at the beach area indicating the status of the beach (refer to Table 2). Beaches meeting the minimum sampling requirements for their assigned Tier will display a sign which indicates the beach is *Open* for swimming and recreation and meets state standard for acceptable bacteria levels. Beaches that do not meet the Tier designation for minimum sampling requirements will display a sign indicating the beach area is *Not Monitored* and bacteria levels are not sampled routinely by the NHDES Beach Program. Beaches that do not meet state standards for acceptable bacteria levels, and/or a toxic cyanobacterial scum is present will display signs indicating the beach is under *Advisory*.

Quality Control

Quality assurance and quality control elements are consistent with sections A 7.0, A 7.1, B 4.0, and B 5.0 of the Beach Program QAPP.

Data Management

Data management elements are consistent with sections B 9.0, B 10.0, D 1.0, D 2.0, and D 3.0 of the Beach Program QAPP.

Program Assessment

Program assessment elements are consistent with sections C 1.0, and C 2.0 of the Beach Program QAPP.

Table 1: Tiered Sampling Design for New Hampshire Public Beaches

		Tier I	Tier II
A. Minimum Sampling Frequency		<p>At least two weeks before start of sampling season and to the last day of sampling season. June 1st through September 7th.</p> <p>Minimum sampling frequency from June 15th through September 7th is 1 sample per station per week.</p>	<p>At least two weeks before the start of the sampling season and to the last day of the sampling season. June 1st through September 7th.</p> <p>Minimum sampling frequency from June 15th through September 7th is 1 sample per station two times per month.</p>
B. Designated Sample Location		<p>a. Beach length \geq 100 ft. requires 3 samples per beach at left, center and right locations.</p> <p>b. Beach length < 100 ft. requires 2 samples per beach 1/3 of the distance from either end of the beach.</p> <p>c. Beach located on flowing body of water requires 3 samples per beach upstream, center, and downstream of the beach.</p>	<p>a. Beach length \geq 100 ft. requires 2 samples per beach 1/3 of the distance from either end of the beach.</p> <p>b. Beach length < 100 ft. requires 1 sample per beach at the center of the beach.</p> <p>c. Beach located on a flowing body of water requires 1 sample per beach at the center of the beach.</p>
C. Sample Depth		Knee Depth	Knee Depth
D. Triggers for Additional Sampling	a. Water quality violation and re-opening after advisory	Re-sampling and public notification.	Re-sampling and public notification.
	b. Bather load	High bather load during peak use triggers additional round of samples.	N/A
	c. Sewage spill or pollution event	Requires additional sampling.	Requires additional sampling
	d. Point sources such as culverts, drainage pipes, or CSOs	DES recommends that additional samples be collected after rain events.	Same

	e. Surface scums	DES protocol requires scum samples be collected and analyzed for the presence of toxic cyanobacteria.	Same
	f. Waterfowl	DES recommends additional samples if waterfowl congregate on the beach or in the designated beach area.	Same
	i. Marinas	DES recommends additional samples be collected at beaches that are potentially impacted by marinas.	Same

Table 2: New Hampshire Beach Use Categories

Beach Status	Color Code	Explanation
Open Open to the public for recreation		Meets the minimum sampling requirements and currently meets state standards for acceptable bacteria levels.
Not Monitored		Beach does not meet minimum sampling requirements.
Beach Advisory Water Quality		Beach may not be suitable for swimming or other water contact activities due to high levels of bacteria.
Beach Advisory Cyanobacteria		Beach may not be suitable for swimming or other water contact activities due to high levels toxic cyanobacteria.

Table 3: Coastal Designated Beaches and Tier Status

Beach Name	Water Body	Tier
Seabrook Beach	Atlantic Ocean	I
Seabrook Harbor	Hampton/Seabrook Harbor	II
Hampton Beach State Park	Atlantic Ocean	I
North Beach	Atlantic Ocean	I
Northside Park	Atlantic Ocean	II
North Hampton State Beach	Atlantic Ocean	I
Bass Beach	Atlantic Ocean	II
Sawyer Beach	Atlantic Ocean	II
Jenness Beach State Park	Atlantic Ocean	I
Cable Beach	Atlantic Ocean	I
Foss Beach	Atlantic Ocean	II
Pirates Cove Beach	Atlantic Ocean	I
Wallis Sands State Park	Atlantic Ocean	I
New Castle Town Beach	Little Harbor	I
Star Island	Atlantic Ocean	II

Appendix A

Coastal Recreational Waters And Primary/Secondary Contact Recreation Areas

New Hampshire Department of Environmental Services Beach Program

Coastal Recreational Waters and Primary/Secondary Contact Areas

The following represents coastal recreational waters and primary/secondary contact areas for the State of New Hampshire. The Environmental Protection Agency's Clean Water Act (CWA) section 502(12), as amended by the BEACH Act, defines coastal recreational waters as: "the Great Lakes and marine coastal waters (including coastal estuaries) that are designated under section 303 © by a state or tribe for use for swimming, bathing, surfing, or similar water contact activities. Coastal recreation waters do not include either inland waters or waters upstream of the mouth of a river or stream having an unimpaired natural connection with the open sea" (US EPA, 2002). The DES Beach Program has identified coastal recreational waters consistent with the above definition. Table 1 represents a list of coastal recreational waters for the State of New Hampshire.

Table 1. Coastal Recreational Waters

Atlantic Ocean (Atlantic Coast/Gulf of Maine)
Hampton/Seabrook Harbor
Rye Harbor
Little Harbor
Portsmouth Harbor
Little Bay
Great Bay

The Beach Program is required to identify beaches or similar points of access along coastal recreational waters used for swimming or similar water-contact activities. Coastal designated beach areas were identified as primary contact recreation areas (Table 2) while coastal access points were identified as secondary contact recreation areas (Table 3). The New Hampshire 2002 305(b)/303(d) Consolidated Assessment and Listing Methodology (CALM) defines primary and secondary contact recreation areas. Refer to Table 4 for definitions.

Table 2. Primary Contact Recreation Areas

Beach Name	Town	Waterbody
Bass Beach	Rye	Atlantic Ocean
Cable Beach	Rye	Atlantic Ocean
Foss Beach	Rye	Atlantic Ocean
Hampton Beach State Park	Hampton	Atlantic Ocean
Jenness Beach State Park	Rye	Atlantic Ocean
New Castle Town Beach	New Castle	Portsmouth Harbor
North Beach	Hampton	Atlantic Ocean
Northside Park	Hampton	Atlantic Ocean
Pirates Cove Beach	Rye	Atlantic Ocean
Sawyer Beach	Rye	Atlantic Ocean
Seabrook Town Beach	Seabrook	Atlantic Ocean
Seabrook Harbor Beach	Seabrook	Hampton/Seabrook Harbor
Star Island Beach	Rye	Atlantic Ocean
State Beach (North Hampton State Beach)	North Hampton	Atlantic Ocean
Wallis Sands State Park	Rye	Atlantic Ocean

Table 3. Secondary Contact Recreation Areas

Name	Town	Waterbody
North Hampton Access	Hampton	Atlantic Ocean
Odiorne Access	Rye	Little Harbor
Odiorne Park Boat Launch	Rye	Little Harbor
New Castle Access	New Castle	Portsmouth Harbor
Goat Island Access	New Castle	Portsmouth Harbor?
Sun Valley	Hampton	Hampton Harbor
Rye Harbor Access	Rye	Rye Harbor

Table 4: New Hampshire Designated Use Definitions for Recreational Waters

Designated Use	DES Definition	Applicability
Primary Contact Recreation (i.e. swimming)	Waters suitable for recreational uses that require or are likely to result in full body contact and/or incidental ingestion of water	All surface waters
Secondary Contact Recreation	Waters that support recreational uses that involve minor contact with the water.	All surface waters

From the New Hampshire 2002 Consolidated Assessment and Listing Methodology

Appendix B

Risk-Based Beach Evaluation and Classification Form